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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,954

01/30/2006

David Opie

L2:00535

1071

71897

7590

12/09/2009

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EXAMINER

SCHILLINGER, ANN M

ART UNIT

PAPER NUMBER

3774

NOTIFICATION DATE

DELIVERY MODE

12/09/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO@KPPB.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,954	<b>Applicant(s)</b> OPIE ET AL.	
	<b>Examiner</b> ANN SCHILLINGER	<b>Art Unit</b> 3774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 23-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Amended claim 1 states that the alloy composition is free from at least one of Al, Ni, and Be. However, claim 7 states that the alloy has a molecular formula that includes all three of these elements. Appropriate correction is required.

### ***Terminal Disclaimer***

The terminal disclaimer filed on 8/5/2009 disclaiming the terminal portion of any patent granted on this application has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 6, 8-13, 16, 17, and 19-22 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Horton et al. (US Pub. No. 2002/0162605). Horton et al. discloses dental implants made of a bulk-solidifying amorphous alloy that is Be free and discloses an example of

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such an alloy having a composition within the limits as recited in the instant claims. This alloy has the claimed elastic strain limit, fracture toughness, and hardness value within the claimed ranges (paragraphs 0031, 0032, 0044, and Table 1). The implant has a surface texture selected from a mixture of concave and convex surfaces (Figs. 1-5). The alloy has substantially the molecular structure described in claim 8, which is based on ferrous metals and is a Zr/Ti- based alloy (paragraphs 0032, 0035). The implant can act as a load-bearing and/or articulating member (paragraph 0031).

Horton et al. does not specify the cooled liquid region and the claimed hardness and elastic strain limit. However, the examiner 's position is that these are material properties of a given amorphous alloy composition, and that Horton et al. in paragraph 0032 indicates that a large range of specific compositions may be used in the Horton et al. procedure. One skilled in the art would vary the composition used by Horton et al. within the constraints set forth in that reference, and some of the compositions are likely to possess the hardness and transition temperatures as presently claimed.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. in view of Scheicher (US Pat. No. 4,278,630). Horton et al. teaches the invention substantially as claimed, however, Horton et al. does not teach the implant body having a plurality of pores. Scheicher teaches a dental implant having pores in col. 2, lines 40-63 for the purpose of providing an adhering layer for the ingrowth of tissue. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Horton et al. with pores in order to provide an adhering layer for the ingrowth of tissue.

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Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. in view of Lin et al. (US Pat. No. 5,797,443). Horton et al. teaches the invention substantially as claimed, however, Horton et al. does not teach the bulk-solidifying amorphous alloy being free of Al and Ni. Lin et al. teaches articles of a bulk-solidifying amorphous alloy that is free of Al and Ni in pores in col. 4, lines 39-67 for the purpose of providing the final article with the desired physical characteristics. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Horton et al. to be free of Al and Ni in order to construct the final implant with the desired physical characteristics.

Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. in view of Oshida (US Pat. No.6,066,176). Horton et al. teaches the invention substantially as claimed, however, Horton et al. does not teach the implant body being coated with a biocompatible resin cement. Oshida teaches a dental implant being coated with a biocompatible resin cement in the abstract and col. 6, lines 41-62 for the purpose of more securely holding the prosthesis in its desired position. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Horton et al. with a layer of biocompatible resin cement in order to more securely hold the prosthesis in its desired position.

### ***Response to Arguments***

Upon further review of the Horton et al. reference, the examiner has determined that Horton et al. discloses the bulk-solidifying amorphous alloy that is free from the element Be, as described above. Further, the Lin et al. reference has been used to teach the alloys free from Ni and Al as described above.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANN SCHILLINGER whose telephone number is (571)272-6652. The examiner can normally be reached on Mon. thru Fri. 9 a.m. to 4 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on (571) 272-4749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. S./

Examiner, Art Unit 3774

/DAVID ISABELLA/

Supervisory Patent Examiner, Art Unit 3774